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LETTER *From The Editor-In-Chief*

Over the past couple of weeks I've installed a new tile floor as well as a new wood floor in my home. My wife sees all the time and work it requires and she keeps asking why I don't hire someone else to install it. Well, there are a lot of reasons why I do it myself, not the least of which is money. Given the shaky nature of the economy, I prefer to keep my money in my wallet rather than put it in someone else's.

I wanted to support my case with some hard numbers, so during one of my repeated trips to the local "big box" home-improvement store, I checked out the labor rates. For laminate floors, the store charged an installation fee of $2.39 per square foot. For ceramic tile installation, the price was $5.75 per square foot. These seem to be reasonable rates, but those numbers can add up fast.

I then punched some figures into my trusty calculator: My new tiled floor was roughly 184 square feet, which would cost $1,058 to have professionally installed. I laid engineered hardwoods throughout most of the top floor, which was roughly 400 square feet—a $956 installation cost.

In regard to DIY projects, I've stressed to the wife about the satisfaction of a job done right, and about the opportunity to put a personal stamp on your work, but when her house is dismantled because of the remodeling, those arguments seem to fall on deaf ears. However, money talks. So, I pointed out to her that, if a penny saved is a penny earned, then I "earned" roughly $2,000 by installing the floors myself. And she admits, that's a pretty strong payday.

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Q: *My next-door neighbor is having his house treated for termites. I've been told that the termites will attack my house next. Should my house also be treated?*

A: Termites move randomly through the soil in search of a food source—namely wood—but they don't have the ability to know exactly where your house is. So, if your next-door neighbor treats his home for termites, your house isn't necessarily the next item on the menu. However, if there are active termite infestations in your neighborhood, it is a good idea to have your home inspected.

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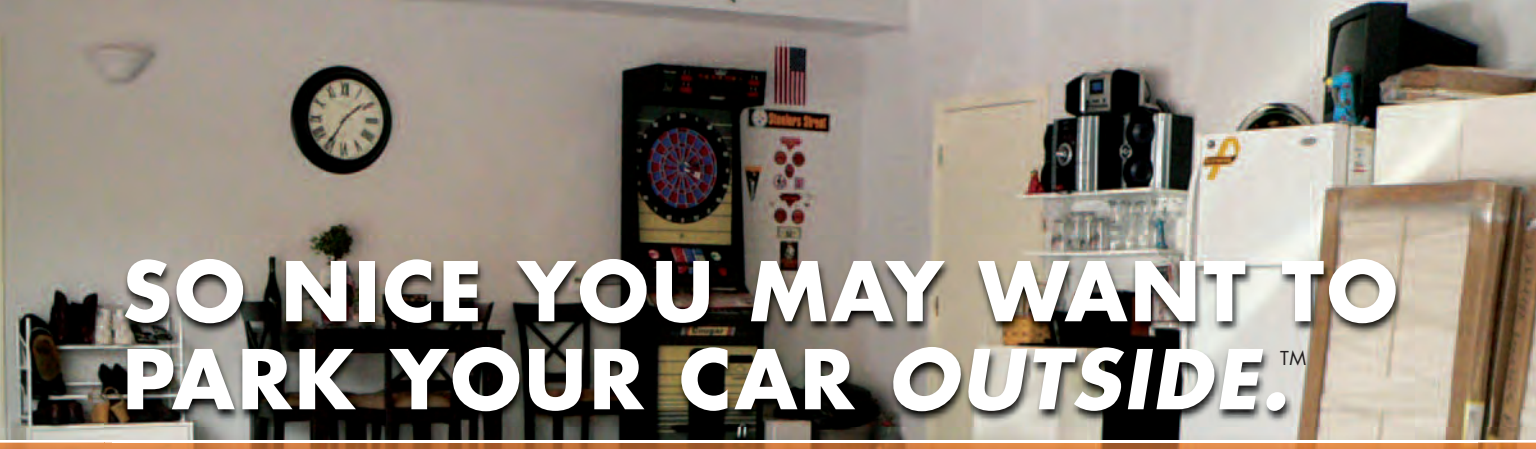

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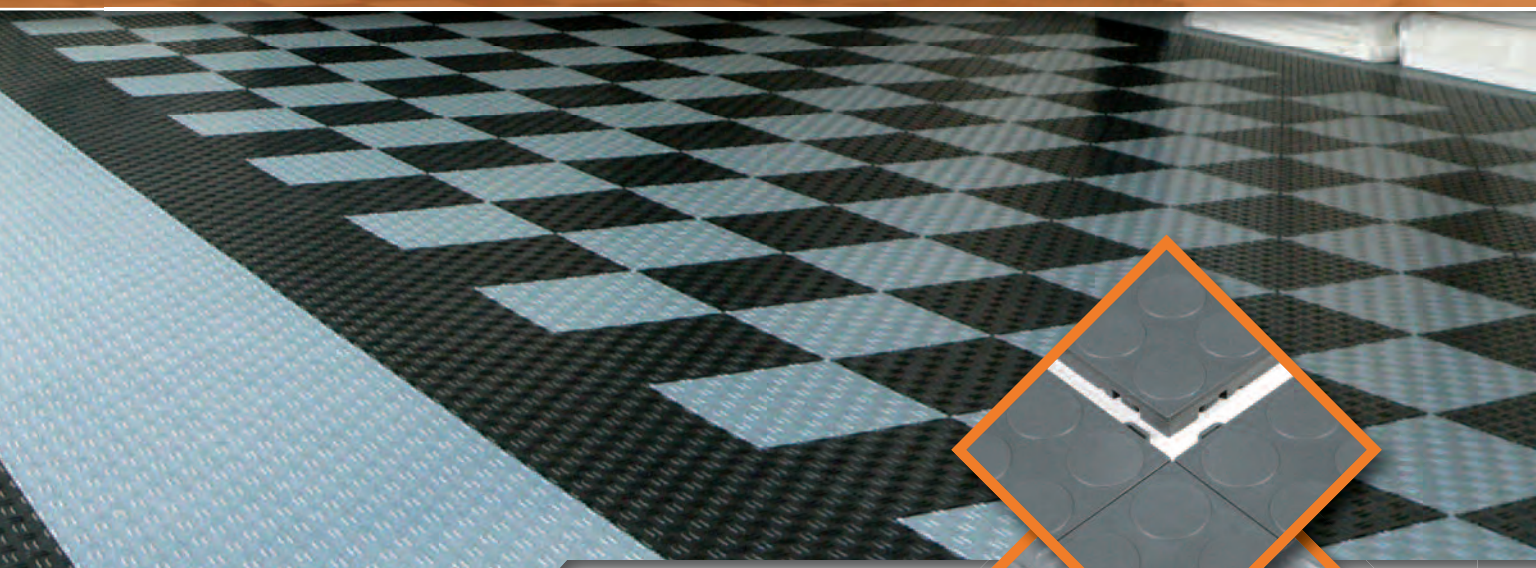

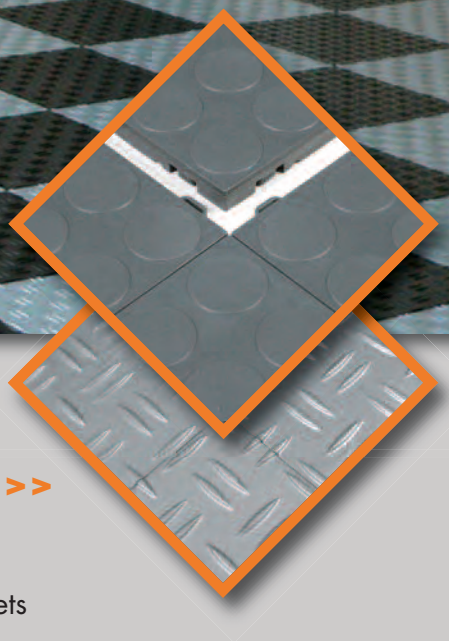

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Q: *Is it possible to re-sand a parquet floor?*

A: Genuine parquet floors can be re-sanded but require a special technique or specific type of sander. The tile of the parquet pattern is made of several strips with the grain running in different directions. Due to this design, sanding across the grain is unavoidable, which can leave unsightly scratches. To reduce the scratches, rent a large random orbital sander. The round pad of a random orbital sander moves in a random semi-circular pattern that minimizes scratching of the grain. Use a 36-grit abrasive to remove the finish. Then make successive passes with 60-, 80- and 100-grit abrasives. Sand the floor's edges using a hand sander with the same progression of grits.

Q: *Is there an easy, DIY approach to fixing a small leak in a copper pipe?*

A: The quickest way to fix a small leak is to use plumber's epoxy at the pipe joint. After cutting off the water supply, cut off a couple of pieces of the epoxy ribbon. Knead the epoxy putty with your fingers, covering the pipe surface around the leak. Then just turn on the water and inspect it for leaks. However, this is only a temporary fix, and the supply line will need to be permanently repaired or replaced. **EHT**

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Working for the Clampdown

Get a grip on the latest clamp innovations.

K Body Revo from Bessey Tools

By Matt Weber

You can never have too many clamps. Clamps are tools used by both professionals and DIY'ers for practically any job, from woodwork to metalwork to general building and remodeling. There are dozens of clamp styles and each has a specific application, although they're all designed to hold a work piece securely while you cut it, fasten it or glue another piece to it. To go into the details of each style of clamp would require a book rather than a magazine article, but this story will highlight some of the latest innovations in clamps for the hobbyist and pro alike.

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For major woodworking products, such as building furniture or cabinetry, a few square-jawed woodworking clamps can play a crucial role in assembling the case, shelving and partition walls. One of the market leaders is Bessey Tools latest version of the K Body clamp. It features large guided jaws with flat faces for a firm, flush grip. These clamps are ideally suited for clamping components at right angles without twisting or tilting. The jaws are glue-resistant and clad in polyamide for a soft touch against the workpiece.

Bessey's latest version, the redesigned K Body Revo, offers 30 percent more clamping surface and 25 percent more clamping force. The enhanced design of this big, beefy clamp has a new end-rail clip, rail protection and several accessories. The larger replaceable handle is made of a two-component composite with a soft plastic insert for comfort while working. The replaceable rail-protection pieces elevate the workpiece from the rail to avoid glue buildup. Plus, the tail-piece can easily be removed and reversed on the sliding arm for use as a spreader. Available with openings from 12 to 98 inches, the K Body Revo offers 1,500 pounds of nominal clamping pressure. Visit www.besseytools.com.

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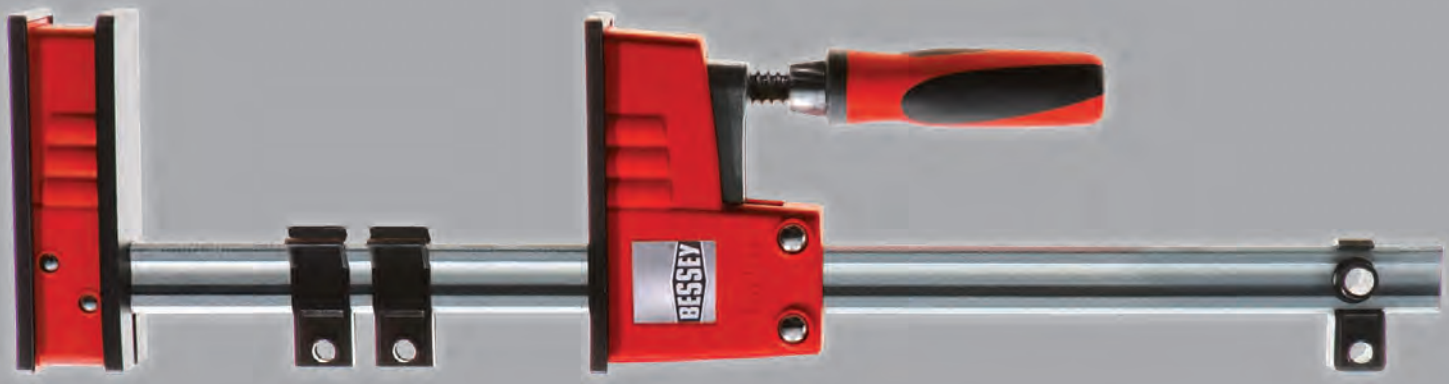

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VERSACLAMP CLAMPING CENTER

The VersaClamp from Penn United is two clamps in one: a vise clamp and a bar clamp. As a bar clamp, the VersaClamp's jaws are held parallel by a sturdy steel bar. The replaceable jaw pads are molded with a thermoplastic rubber for a soft grip against the work. To operate it, simply position the work piece between the jaws and slide the free jaw against the work piece. Then, at the fixed jaw on the other end, just engage the handle until the cam locks.

You can make the change from bar clamp to vise mode in seconds. As a functional vise clamp, the VersaClamp is held in place by two small mounting brackets that install along the edge of your workbench. Use the quick-release cam to secure the VersaClamp onto the mounting brackets. The mounting brackets also allow the clamp to rotate 110 degrees, so you can easily adjust the angle to suit the work at hand—great for hard-to-clamp items when traditional clamps won't work. The VersaClamp has a wide 20-inch jaw opening and generates more than 400 pounds of clamping pressure. Visit www.versa-clamp.com

THE ALPHA-CLAMP

The Alpha-Clamp has a unique design that utilizes two parallel bars, unlike the single bar of conventional clamps. Both bars are adjustable, removable and reversible. Assemble the Alpha-Clamp to meet your project's specific needs. Use it to clamp, spread or jack—or even use it as a hoist. It has an adjustable throat depth up to 12 inches, giving it C-clamp capabilities for holding L-shaped work pieces. The Alpha-Clamp has a spreading or jacking range of 33 inches for jobs such as installing a double-hung window. It can also be configured for offset jacking or spreading.

Additional features of the Alpha-Clamp include integrated vertical and horizontal level bubbles, an 18-inch standard ruler, a 44-millimeter metric ruler, soft-touch jaw pads and four internal brakes. The Alpha-Clamp is made in the USA and comes with a limited liftetime warranty from Lowell Thomas Tool, Inc. Visit www.abestclamp.com.

With two removable parallel bars, the Alpha-Clamp can be configured to clamp, spread, jack or even hoist.

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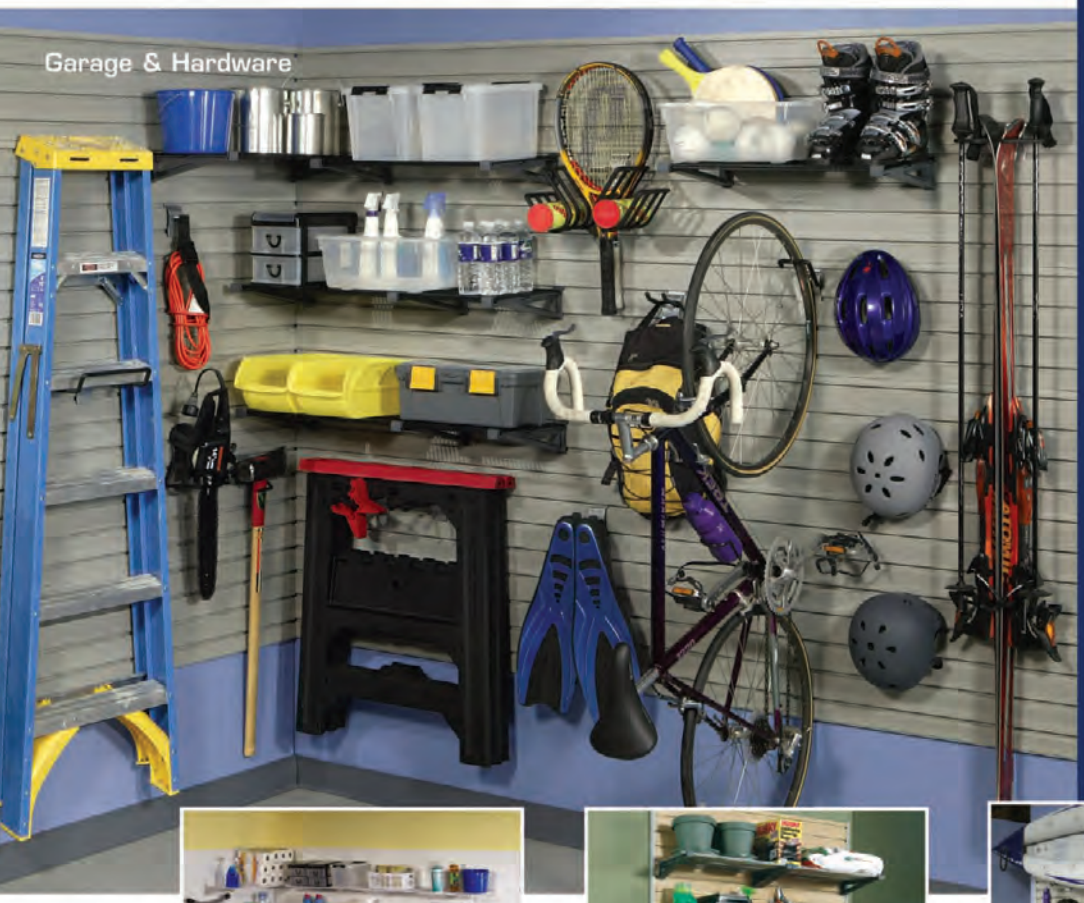

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Stanley's FatMax Xtreme Auto Clamp features removable jaw pads and oversized jaw faces. Available in 6- and 12-inch jaw capacity, it delivers 450 pounds of maximum clamping force and easily converts to a spreader. Visit www.stanleytools.com.

VARIOCLIPPIX

The VarioClippix from Bessey Tools is a new variation on the standard spring clamp. Conventional spring clamps are often sold in sets that include matching pairs of various sizes. Although these clamps are useful and versatile, the problem is that they take up a lot of storage space and can be difficult to organize. However, with the VarioClippix the infinitely adjustable jaws open up to 4 inches, meaning this single clamp can do the work of four different sized spring clamps. The variable jaw openings also allow the user to better control clamping pressures, so wider settings can be used for less pressure to protect delicate work surfaces. Plus, the clamps' handles stay at a constant setting and constant hand pressure, so the VarioClippix is always comfortable to use. Visit www.besseytools.com.

The VarioClippix has an adjustable jaw that opens up to 4 inches.

R&R STACKABLE CLAMPS

Here's another smart clamp design: Stackable bar clamps from R&R Clamp. Many woodworking chores, such as constructing cabinet doors or edge-gluing stock, require a lot of table space. The new R&R Panel Clamping System is designed to maximize the use of work space by allowing the user to stack the work. The system we tested included six specially designed 24-inch bar clamps, top and bottom alignment bars, rubber jaw pads and a socket driver. The jaws of the clamp travel on a threaded rod, which allows you to pop the socket on a power drill for fast, simple clamp

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adjustment. Use the bottom two clamps to secure your work, and then stack two more clamps on top to clamp another project in the same footprint of space. You can stack as many as three sets of clamps, and then add the top alignment bar to stabilize the work. The clamps are available in 1-, 2-, 3- and 4-foot lengths. Visit www.rrclamp.com.

ES IRREGULAR ANGLE CLAMP

ES Clamp

For all sorts of difficult-to-clamp situations, Bessey Tools offers the ES Irregular Angle Clamp System. This unique ball-and-socket system applies direct pressure on nearly any irregular angle from 15 to 180 degrees. The ES Set includes two pressure caps and two clamping blocks with anti-slip, non-marring inlaid pads to protect work surfaces. Offering superior versatility, the ES provides a solution for clamping challenging projects such as hand rails, banisters and furniture. Visit www.besseytools.com. **EHT**

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PAINTING KITCHEN CABINETS

By Matt Weber

Do the Job Yourself to Save Loads of Money

Cabinets are usually the most prominent feature of a kitchen and greatly determine the room's overall décor. Peeling paint, nicks and scratches, or a dull, dirty finish can plague older cabinets and really sap the pizzazz out of the living space. On the other hand, a fresh coat of paint can do wonders for cabinets and breathe new life into the kitchen. A repainting project can also save tons of money when compared to full cabinet replacement, which can easily total several thousands of dollars.

Some repainting jobs are relatively simple. Your situation may only call for some light sanding, a thorough washing, and a new coat of paint to renew the color that already exists on the cabinets. This is a fairly straightforward procedure that requires you to remove the hardware and doors, and secure yourself a dust-free location for painting and drying the doors (the carcass can be painted in place). In this case, the actual paint application probably

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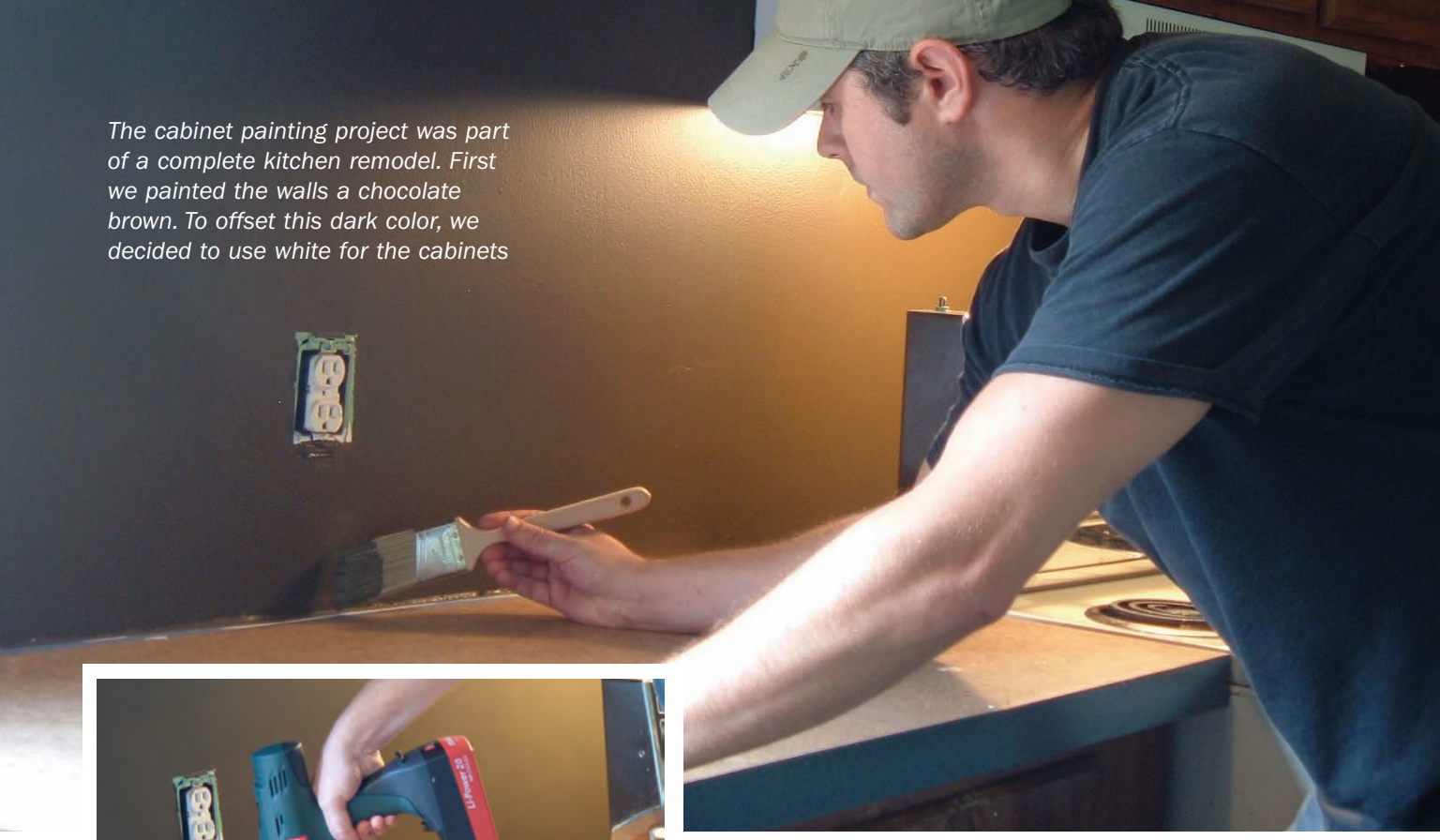

The cabinet painting project was part of a complete kitchen remodel. First we painted the walls a chocolate brown. To offset this dark color, we decided to use white for the cabinets

Remove the doors and all hardware. Label the doors by number to keep track of their placement.

One option for removing the old cabinet finish is to brush on a paint stripper.

won't take longer than a weekend, although drying time may take longer. If the project only requires a fresh coat of paint, then consider yourself lucky; a complete refinishing job takes a lot more time and effort.

This article covers a cabinet painting project where we stripped and/or sanded the factory finish off a set of MDF cabinets and covered them with primer and an oil-based paint. Here's how we eliminated an old, ugly finish and replaced it with a fresh coat of bright white.

GETTING STARTED

You'll need a drill/driver to pop off the cabinet doors and unscrew all the hinges, handles and knobs. The brass hardware on the cabinets was very dated, so we discarded the old stuff to replace later with new hardware. If you plan to reuse the old hardware, then make sure to store all the loose components and fasteners in a bucket while you paint.

If you have many doors of dissimilar sizes, then label them with painter's tape. The cabinets in this project had 15 doors of various dimensions, so we labeled them by number to avoid confusion when reinstalling.

Next, fill any dings or dents in the wood with non-shrinking putty. Most types of putty are very hard once they dry, so remove as much excess as possible. And if you plan to use new hardware with different fastener locations, then go ahead and fill the old screw holes with putty, too. Once the putty has dried, the repaired areas can be sanded smooth.

You will need to set up a work area, because removing the old finish is going to be a messy job. You'll need

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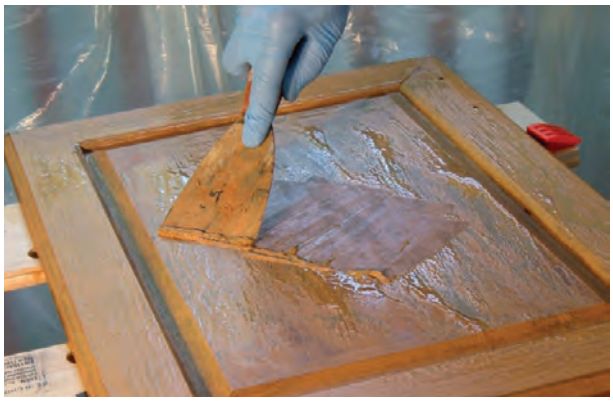
to arrange a large, flat surface to work on the doors. Use plenty of drop cloths to protect anything you don't want exposed to wood dust or paint stripper. Some paint strippers may also require open-air ventilation.

REMOVING THE OLD FINISH

As with any painting job, prepping the surface is critical for any hope of success. The cabinets in this project were made of MDF with a faux wood finish, which was blistered and wearing away in various places. I wanted to completely eliminate this old finish to guarantee a good bond for the new paint. You can remove the finish by stripping the paint with a chemical or sanding the doors down to bare wood. I tried both methods, and there are pros and cons to each.

Stripping—If you choose to use a paint stripper, make sure your product is intended for this particular application. The product I used was gelatinous chemical stripper that I brushed on thickly—a coat about 1-millimeter thick, per instructions—and allowed to work its magic on the cabinet door surface. I found it to be some pretty powerful stuff. After about 5 minutes you could see a definite discoloration in the surface as the stripper chemically broke down the finish. Twenty minutes later, the old finish was dissolved, and the stripper was ready to be scraped away. Use a putty knife, furniture scraper or stripping brush to remove the gooey material and discard it into a plastic bag for disposal.

Again, this process is very messy, so use drop cloths, rubber gloves, and have plenty of rags handy for the



After about 20 minutes, the stripper had dissolved the old finish and was ready to scrape away.

Stripping brushes work well for removing the stripper from curves and profiles. Or, you can bypass the stripper in favor of a random orbital sander.

One trick to smoothing the hard-to-sand profiles and edges of MDF cabinets is to apply a thin coat of vinyl spackling. Allow it to dry, remove any excess and you're ready to prime.

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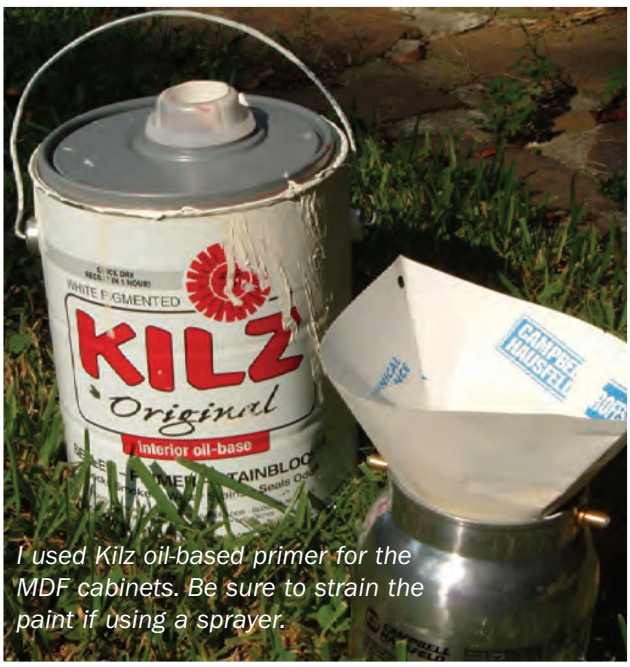
A high-velocity/low-pressure sprayer is a great way to apply primer and paint to the cabinet doors. We used Campbell Hausfeld's HV2000 and it achieved an excellent finish.



I used Kilz oil-based primer for the MDF cabinets. Be sure to strain the paint if using a sprayer.

inevitable cleanup. The stripper is very viscous, so when you scrape it off, it comes up in big, sloppy globs. However, it does a good job; after a single application I could scrape away the old finish and see the bare MDF wood fiber beneath it. The stripped surface still required a little finish-sanding, but most of the work was done by the paint stripper.

Sanding—In lieu of paint stripper, sanding away the old finish is also a messy chore—but it's a dry mess. No sticky, goopy liquid, just lots of dust to deal with, so wear a dust mask and safety glasses. For this method, clamp the door to the work surface and use a random orbital sander with a medium-grit sandpaper to remove the old paint or finish down to bare wood. The printed finish on these particular cabinets evidently contained some sort of plastic material, because as I sanded my abrasive pad was constantly accumulating a plastic buildup. It was so extensive that the sanding disc would spin on the plastic buildup without allowing the abrasive surface to contact the wood. This meant I was continually replacing discs—at least 1 disc per door. It also takes a while to completely remove the finish, and the constant tool vibration can get tiring after a while. However, on the plus side, if you do it outdoors or use a sander with a vacuum dust-collection system, the process is much less messy than stripping.

Combination—After trying both, I determined that neither method was particularly fun or easy, and both are very time-consuming. But I ultimately decided to use a combination of the two methods for this project. Because my stripping product was so viscous, it would stick to vertical surfaces without dripping much. So I used the stripper on the cabinet carcass, where otherwise using the power sander in an upright position would have been exhausting. But to avoid the sticky mess of the stripper, I used a power sander to strip the doors, which I could place on a workbench in a comfortable sanding position.

FINISH SANDING

Once the original finish has been completely removed, you should finish-sand the wood to achieve a very smooth surface. Start with 150-grit sandpaper, and then move to 180-grit. The fully prepped surface should be clean, dry, dull and smooth. Remove all wood dust with a tack cloth. Do not use water to remove the dust and do not wet sand. With many types of wood—and MDF is particularly bad about this—water will raise the fibers and ruin the sanding job you just completed.

When sanding edges and curves, you have options. Some tool manufacturers, such as Skil, offer electric finish sanders with specially shaped sanding profiles that match or conform to common curves and irregular shapes. Or, you may opt to hand sand using sandpaper backed by a sponge. Some woodworkers even create their own custom sanding profiles for specific jobs. Not me; I used a finish sander and sponge pad.

Here's another tip: Because the routed edges of MDF tend to be rough and porous (as with the hard-to-reach inside edges of frame-and-panel doors), I prep these areas with a thin coat of vinyl spackle. Just wipe the

After the primer has dried, lightly sand to a smooth finish.

Next, you're ready to paint. Use plenty of drop cloths. I sprayed on two coats of oil-based paint to each side of the doors, allowing the paint to dry between coats.

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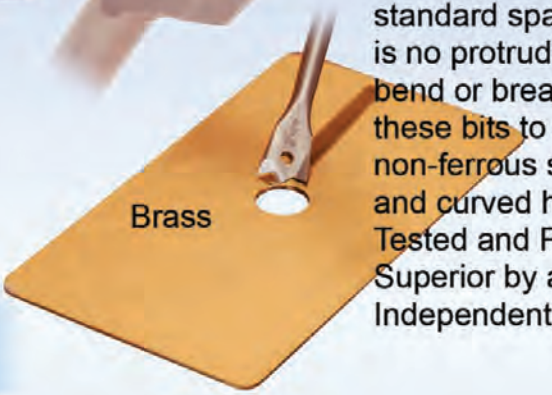

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For the cabinet case, we primed and painted it in place using a brush.

Use a combination level to make sure you keep the hinges and handles consistently spaced when installing the hardware.

spackle onto the areas you can't easily access with sanding tools. Use a damp, short-bristled brush to remove any excess before it hardens. Once it cures, sand it with a sanding sponge and you'll have a smooth surface to prime and paint.

PICKING PAINTS

In general, latex paints are considered easier to use than oil-based because they dry quickly and clean up with water. But for kitchen cabinets I prefer oil-based paint because it forms a harder, more durable topcoat and levels out to a very smooth finished surface. As far as cure time, oil paints will take longer to dry initially (roughly 24 hours per application). However, latex paints will take longer than oil-based paints to fully cure to a hard finish (as much as three weeks), and in the meantime can be susceptible to damage. For example, when the doors are reinstalled on the cabinets, the uncured latex paint can stick together where two surfaces meet. To avoid this you might have to leave your doors off for quite a while. However, with proper application and cure time, either type of paint will achieve a quality finish. If you opt for latex paint, make sure to use 100-percent acrylic formulation, which is more durable than vinyl acrylic paints.

HOW TO APPLY

After selecting your paint, the next big question: How to apply it? You can get great results with a high-quality brush, but

it will leave visible bristle marks. Most pros avoid painting with a roller because it leaves the slightly mottled texture of the nap on the cabinet surface. A sprayed-on finish will achieve the smoothest finish coat. However, spraying the cabinet carcass in place means having to cover everything else in the kitchen with tape and plastic, which can be cumbersome and time-consuming. And when paying a pro to do the work, "time-consuming" equates to "expensive."

DIY'ers can usually rent spray equipment from a local paint store or home-improvement retailer. Or, you might be enticed to plunk down a little money for a user-friendly HVLP sprayer. For this project, I chose an HVLP sprayer to paint the doors off site, but I brushed the paint onto the less visible areas, namely the carcass and cabinet framing.

PRIME TIME

Of course, all good painting starts with priming, so begin the process with a coat of quality oil-based primer. For this project I used Kilz, which dries quickly and covers well. (Never use a water-based primer with MDF; it will cause the fibers to swell for a bumpy surface.) If spraying, then follow the manufacturer's instructions for configuring the sprayer and loading the paint—it may require you to add paint thinner. Spray on the primer evenly, covering all surfaces completely to ensure top-notch adhesion of your paint coats.

After the primer has dried, lightly sand it with 180-grit paper to remove any imperfections before applying the topcoats. One coat of primer should suffice. Use a tack cloth to wipe down the primed surface after sanding.

After everything is prepped, primed and dried, it's time to apply the paint. Clean out the paint gun, reload it with a quality oil-based interior paint (strained through a filter), and go to town. Quality spray guns, such as the Campbell Hausfeld HV2000 shown, allow you to dial in the gun's spray pattern. Choose from a circular pattern, a horizontal or vertical ellipse to maximize your coverage. This prevents you from altering the way you hold the gun to suit the object being sprayed.

When using a sprayer, follow this fundamental spray stroke: Hold the gun 90 degrees to the surface, about 6 to 8 inches from the object. Starting 3 inches away from the lower left-hand corner, depress the trigger until the paint sprays outward. Move the gun across the work surface in a straight line until it is 3 inches past the edge. Make a second pass, overlapping the first by 50 percent. Move the gun fast enough to avoid accumulating puddles of paint. Continue until full coverage is completed.

Allow the doors to dry overnight. When completely dry, paint the other side of the doors. Bear in mind that you'll need to have secured a paint-friendly area to do this job. I did most of my spraying on a screened porch, using plenty of plastic drop cloths. This allowed plenty of open-air ventilation for drying, while the screens kept bugs and debris away from the wet paint. By the time I finished painting, each door had two coats on both sides, and in

Keep a quality level handy; you'll need it when re-installing the doors. One alternative to hand levels is to use a laser level.

The level and plumb laser lines on the cabinet case help to line up the doors when re-installing.

the meantime I had brush-painted the cabinet case in the kitchen.

RE-INSTALLING

The first step in re-installing the doors was replacing the hardware. The new hinges and knobs were a slightly different size than the old stuff, so I had previously filled the holes and was dealing with a "like new" door surface. The location of knobs or pulls boils down to looks and convenience, and there's not a hard-and-fast rule regarding where they go. To prevent splitting the wood, avoid installing them less than 1 inch from any edge of the door. Beyond that, where you place your knobs is up to you; just keep the location consistent from door to door. A general rule of thumb is to locate them within one-third the height of the cabinet.

The same idea goes for the hinges: keep the locations consistent and plumb—the hinges must swing open properly. Drill pilot holes for the screws and fasten all hinges, knobs, pulls or handles securely.

Next, re-install the doors. You may find it helpful to recruit an extra pair of hands to help you hold the door, the drill and the spirit level to make sure the doors are level and plumb. Make sure your doors cover their respective openings evenly; any offset to the right or left will be noticeable and will likely interfere with installing the next door in line.

Hanging the doors is an easier job if you eliminate the spirit level in favor of a laser level (you'll only need two hands instead of three). Spot the level laser line along the cabinet case, marking the top edge of the door location. Line up the door and screw in place. Double-check with a spirit level.

After all the doors were back up and adorned with the new chrome hardware, the difference was amazing. The kitchen originally had puke green walls and worn out "faux" wood-grain cabinets. After painting the walls chocolate and the cabinets a bright white (and re-laminating the countertops), the kitchen appeared to have time-warped into 2008. And while I had invested a lot of time and labor, it only cost me a couple hundred bucks in paint and supplies. Mission accomplished. **EHT**

Once all the doors were back in place, we had the look of new cabinets at a small fraction of the price.

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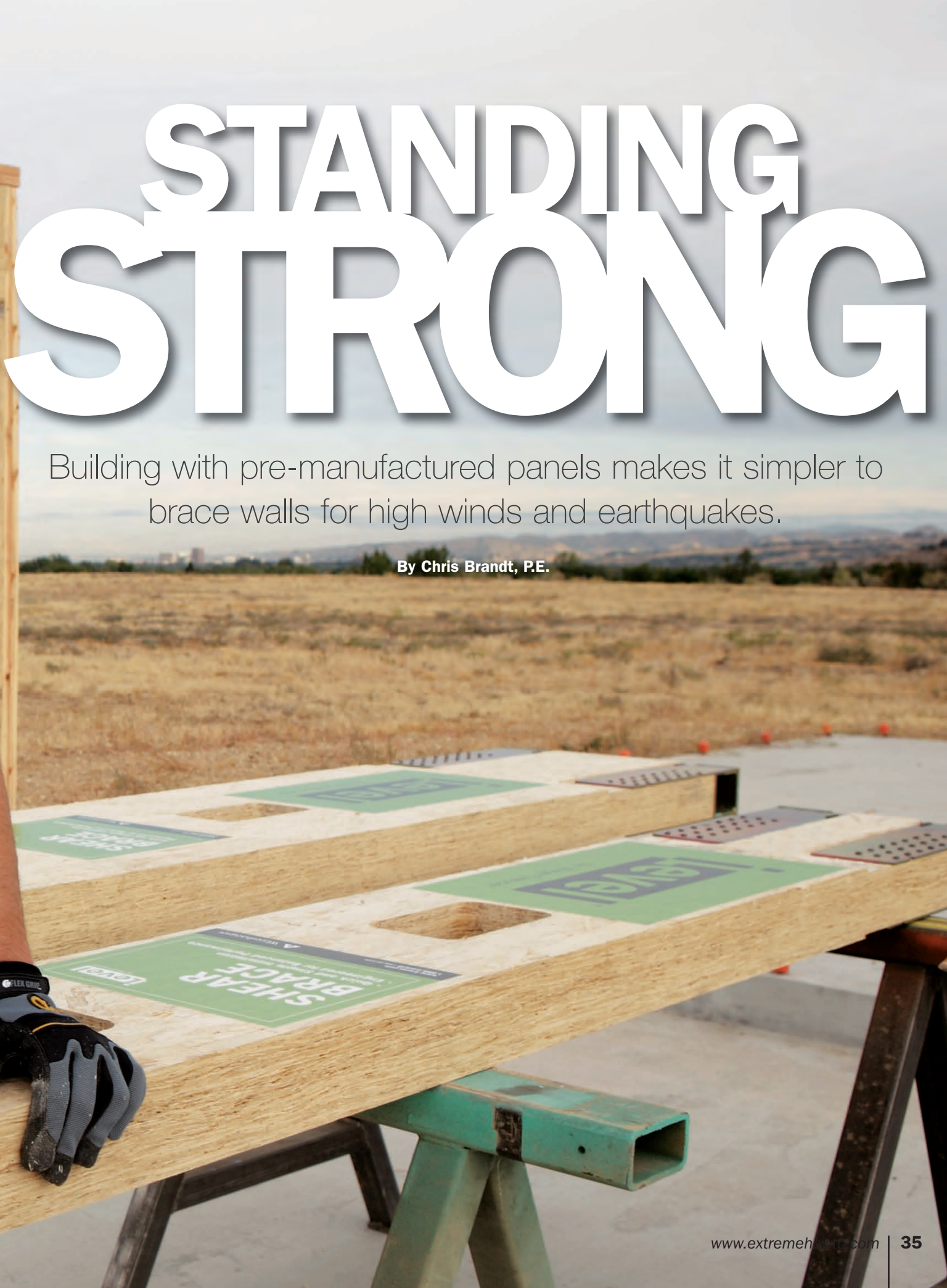
STANDING STRONG

Building with pre-manufactured panels makes it simpler to brace walls for high winds and earthquakes.

By Chris Brandt, P.E.



STANDING STRONG

For home construction jobs involving structural framing, a key issue to be aware of is the need to provide adequate wall bracing. Residential building codes typically require bracing to help homes resist the lateral (or sideways) forces placed on them by high winds and earthquakes.

While providing wall bracing can appear daunting for both the hard-core do-it-yourselfer—and even some professional builders—an understanding of the general concepts and requirements can help get you started. Knowing why wall bracing is required, and what options are available, will give you a background to better understand code requirements, or to work more closely with other professionals you may engage to assist in your building project.

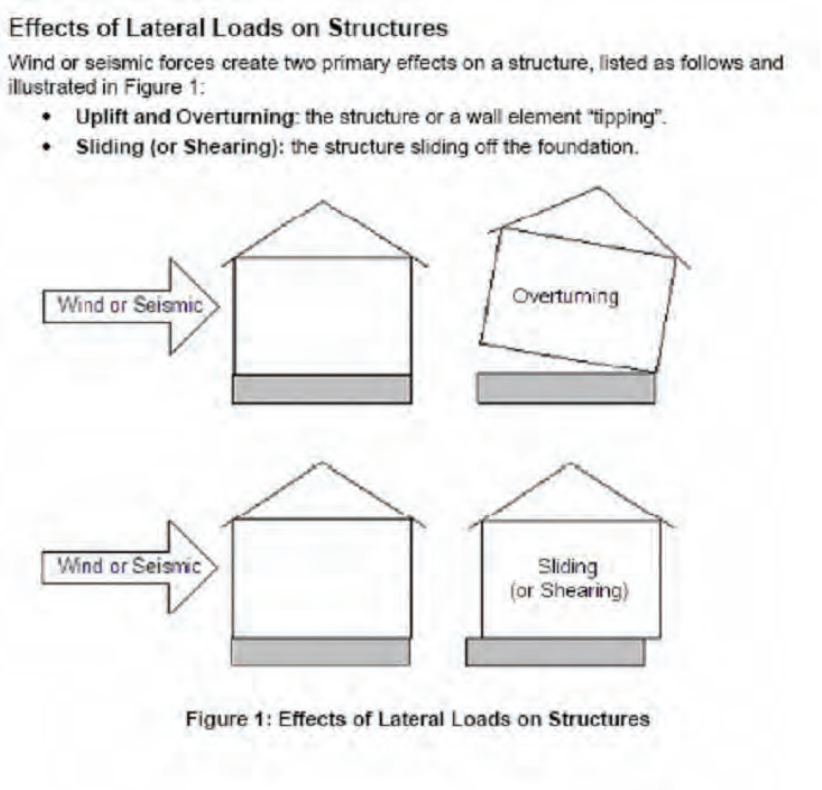

Effects of Lateral Loads on Structures
Wind or seismic forces create two primary effects on a structure, listed as follows and illustrated in Figure 1:
• Uplift and Overturning: the structure or a wall element "tipping".
• Sliding (or Shearing): the structure sliding off the foundation.
Wind or Seismic
Overturning
Wind or Seismic
Sliding
(or Shearing)

Figure 1: Effects of Lateral Loads on Structures

IMPORTANCE OF WALL BRACING

When high winds or seismic forces act on a home, it is subjected to two potential types of damage: 1) uplift and overturning, and 2) shearing. Uplift and overturning is essentially the house tipping over, either as a whole, or more commonly, the walls being pushed out of alignment with the roof and floors. "Shearing" means that the house slides off its foundation. In either case, if the lateral force is strong enough, the damage to the home can be severe. The result is expensive repairs (or even the need for complete reconstruction) and potential injury to the people living inside.

Wall bracing is incorporated into the home's structural frame to provide additional strength to help it withstand lateral forces. It consists of specially constructed wall segments that are tied to the roof and floors. As a lateral force pushes on the home, stud walls deflect and transfer the load to the roof (or the floor above in multi-story homes). The roof and floor diaphragms then transfer the load to braced wall segments attached to the foundation. The lateral force is thus absorbed by the structure and transferred into the ground.

WALL BRACING TECHNIQUES

The key to effective wall bracing is knowing where within a wall to include it, and what size and type of brace is necessary. These can sometimes be complex questions, requiring an engineer or architect to evaluate the framing plan and make detailed calculations on anticipated loads and how they would flow through the structure. This is called a "designed solution," because it involves a specific design tailored to the unique needs of a given floor plan.

However, in most cases building codes allow for what is known as a "prescriptive solution." This is specification of building materials and construction practices that can be implemented according to a particular set of rules. Rather than requiring detailed calculations of forces throughout the structure, a prescriptive solution provides guidance for size and position of the bracing. Prescriptive solutions are typically allowed when the anticipated wind speed is less than 110 miles per hour (100 mph in hurricane regions). Prescriptive bracing is also allowed in seismically active regions, but with more restrictions. Check with your local building official to determine if an engineered solution is required, or if a prescriptive solution is allowed.

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Pre-manufactured panels are one-piece framing members that arrive at the job site ready to install.

For prescriptive solutions, there are four common ways to provide wall bracing:

- Construct 4-foot wide wall sections of code-prescribed materials.
- Construct narrow wall sections of oriented strand board (OSB) or plywood, and include tie-downs (the minimum width varies, based on a number of parameters).
- Construct an alternate site-built or prefabricated portal frame.
- Use pre-manufactured bracing panels designed to resist lateral loads.

Constructing 4-foot or wider site-built braced wall panels is an optimal solution when there is adequate space in the floor plan for braced wall sections of this width. This is a cost-effective approach and typically involves the use of 4-by-8-foot structural panels of OSB, plywood or gypsum board along with solid sawn or engineered lumber studs.

However, for wall bracing in narrow wall segments or for site-built portals, the work can be time-consuming and difficult. Building codes governing braced wall construction can be tricky to interpret. Plus for site-built portals, an extensive nailing pattern is required. An alternative is to install pre-manufactured panels.

The bolts to which pre-manufactured panels attach should be cast in place in the concrete foundation.

For details on required sizing and placement of wall bracing, refer to section R602.10 of the 2006 International Residential Code (IRC). In addition, building product manufacturers or local building product dealers can help you determine ways to implement prescriptive wall bracing solutions, including selecting an appropriate pre-manufactured panel.

BENEFITS OF PRE-MANUFACTURED PANELS

Pre-manufactured panels are one-piece framing members that arrive at the job site ready to install. They are easy to work with and offer more predictable and consistent performance than site-built braced wall panels. In addition, for cases where there is not adequate space to build a 4-foot wide or greater braced wall panel, narrow pre-manufactured panels can often be used. This is a common need in many modern home designs, which have narrow wall segments resulting from large numbers of windows and doors. Depending on the product, a 12-inch wide pre-manufactured

panel can be substituted for a 4-by-8-foot wall section sheathed with OSB or plywood, allowing wall bracing to be incorporated into very narrow wall segments.

Historically, pre-manufactured panels were typically made from steel. This posed a challenge for many builders, though, since they were not accustomed to working with steel framing members and because such panels offer little or no allowance for field flexibility. Now, such panels are increasingly made of engineered wood, which offers greater flexibility of use. Pre-manufactured engineered wood panels can be field-trimmed to fit, and can be nailed, making it easier to attach exterior sheathing. An example is the iLevel Shear Brace, made from TimberStrand laminated strand lumber, with steel mounting brackets. In addition to providing a familiar material to work with, pre-manufactured engineered wood panels are designed for strength, consistency and straightness.

TIPS FOR INSTALLING PRE-MANUFACTURED WOOD PANELS

When working with pre-manufactured wood panels, below are a few key points to keep in mind. In addition, be sure to check and follow the manufacturer's specific requirements for the panel you are using.

Planning the foundation: The required width and depth of the concrete foundation to which a pre-manufactured wood panel will attach depends on the configuration of each panel. Determine these dimensions before pouring the foundation using the manufacturer's specifications. Ensure that the concrete is level and smooth beneath the panel—grind and fill as necessary.

For homes in which the floor is raised above the foundation, some panels can be attached to specified engineered wood blocks, rather than directly to the concrete. The manufacturer or dealer can provide details on installation.

Anchor bolt installation: The bolts to which pre-manufactured wood panels attach should be cast in place in the concrete foundation, rather than drilling the cured concrete and securing the bolts with epoxy. To ensure adequate strength at the attachment point, it is important to use the specific type of bolt (size and grade) supplied with the panel, or as specified by the panel manufacturer.

Some panel manufacturers provide a template for placing the bolts in the concrete. The template protects the threads and holds the bolts at the right position and height until the concrete is set. In addition, in the case of the iLevel Shear Brace, the mounting brackets allow the

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A 12" wide pre-manufactured panel can be substituted for a 4-by-8' wall section sheathed with OSB or plywood, allowing wall bracing to be incorporated into very narrow wall segments.

panel to be adjusted front to back in case the foundation bolts are slightly out of alignment in the concrete.

Panel selection: When choosing a pre-manufactured wood panel, be sure to select one that is tall enough to span from the top of the foundation to the bottom of the header, beam or top plate at the top of the wall. While some pre-manufactured wood panels can be trimmed to fit if they are too tall (within certain limits), gaps above or below should not be shimmed to fit unless permitted by the manufacturer.

Also, select a panel that permits spacing for wiring and switchboxes that need to pass through that area of the home (often necessary for exterior lights in panels used in garage portals). Pre-manufactured wood panels will typically have cutouts for electrical chases and switch boxes. Any additional holes drilled on site must be in accordance with the size and location listed in the manufacturer's specifications.

Panel installation: Many panels are heavy, so having two people do the job is preferred for safety. One person lifts the panel, while the other guides it into place on the anchor bolts. Make sure the panel is plumb and attach it to the anchor bolts using washers and nuts supplied with the panel (don't substitute fasteners, as they are designed specifically to meet the load requirements of the individual panel).

The top of the panel is often attached to the framing above with lag screws installed at a 30-degree angle. The number and position of the screws will be determined by the panel's manufacturer. Again, use the specific screws supplied with the panel.

Wall bracing is an important part of home construction, and can help ensure your project is strong enough to withstand nature's forces. Planning and installing wall bracing, including pre-manufactured wood panels, does not need to be complicated—but if in doubt, check with a qualified engineer. **EHT**

Editor's Note: *Chris Brandt is a market support engineer for iLevel by Weyerhaeuser, www.iLevel.com, 1-888-453-8358.*

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Fireplace Safety:
Avoiding the Dangers of Creosote Buildup

Creosote buildup is a contributing factor in most chimney fires.

By Dave Barnes

Fuel oil and natural gas prices have soared, and with them so has the popularity of alternative fuels. Wood stove, pellet stove and fireplace use are all on the rise, and with each of these comes a hidden danger that every dedicated "wood burner" needs to keep in mind: Burning wood creates creosote, and if left untreated creosote can cause fires.

THE "SKINNY" ON CREOSOTE

When wood burns, it releases unburned gases. These unburned gases condensate on the walls of the chimney liner or flue tile and form a tarry or glazed substance called creosote. Creosote becomes dangerous when allowed to accumulate in the chimney, where it becomes a fuel source for a potential chimney fire. Creosote buildup can be minimized by burning small hot fires and using dry, well seasoned wood, but the reality is the formation of creosote from burning wood cannot be avoided.

THE DANGERS OF CREOSOTE BUILDUP

A chimney fire will occur when built-up creosote deposits are ignited by extreme heat from the fireplace. For this to occur, the creosote must be subjected to high temperatures—temperatures in excess of 1,000 degrees or so. Although 1,000-plus degrees may seem a bit extreme, the following quote from the March 1990 *Home & Hearth Magazine* puts this all in good perspective:

"Creosote buildup, by itself or in combination with other factors, was involved in 92 percent of chimney fires reported in a study commissioned by the Wood Heating Alliance. A buildup of as little as 1/8 to 1/4 inch of creosote is sufficient to create a fire hazard."

FIRST KEY TO SAFETY IS CLEANING

Eventually, every chimney requires a manual cleaning to remove creosote build-up. Since the formation of creosote is an unavoidable byproduct of burning wood, cleaning your chimney becomes an unavoidable task as well. Cleaning a chimney on your own is a dirty job and is somewhat difficult to do. The proper brushes and techniques should be used to ensure that the sides of the chimney are left clean from creosote. And, more importantly, proper inspection should be done at every cleaning to ensure there are no structural defects, such as cracks or missing mortar joints in the chimney flue that could lead to eventual safety problems. For these reasons it is highly recommended that the task of cleaning be left to a CSIA Certified professional chimney sweep. The frequency

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for the cleanings can vary, based on the amount of use that the fireplace receives, but should never be longer than a year between cleanings.

"CHEMICAL CLEANING" IS A GREAT IDEA, TOO

Understanding that creosote can begin to reform within a few days after cleaning, a regular method of ongoing maintenance is always recommended. To accomplish this, chemical cleaners are a great solution.

Chemical cleaners, used during burning, will help to prevent creosote from reforming, as well as help to reduce chimney odors. These types of cleaners can be found in several different forms, including powders, liquid sprays, logs and sticks. When selecting a product to use, keep in mind that the best alternative in chemical cleaners is one that can be used on a daily basis with every burn. My experience has been that the liquid sprays, such as ACS's Anti-Creo-Soot, are the best choice when selecting a cleaner. They tend to be the least expensive per application, they're extremely easy to use and, since they are used with every burn, they are the most effective at reducing ongoing creosote buildup.

Chemical cleaners help prevent creosote from forming.

Burning wood, whether in a fireplace or a wood-burning appliance, offers many advantages to the homeowner, including the lure of heating with wood and the joy of stoking the fire. The energy savings that can be gained by wood as an alternative fuel source have motivated many homeowners to become "wood burners." By taking a couple of steps to keep your fireplace clean from creosote buildup you will enjoy all of the benefits of natural wood without the risks of fire. EHT

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Adios, Wallpaper

When it's time to paint, don't coat the wallpaper—remove it.

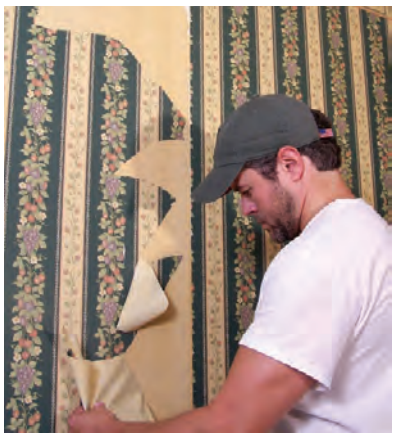
EHT explores two methods to remove wallpaper.

By Matt Weber

I've never met anyone who enjoys removing wallpaper. It's one of those necessary evils of remodeling that must be done if you plan on giving your walls a pro-quality paint finish. Painting over wallpaper can't conceal seams or prevent the paper from peeling in corners. Plus, paint can cause the paper to wrinkle or bubble. For the best results you should remove the wallpaper before painting.

GIVE IT A RIP

Sometimes the pattern of the wallpaper is so ugly and out of style, you decide to paint just so you can get rid of the old paper. That was the case with the house shown, where the striped green and yellow floral pattern



was giving me a headache.

To remove wallpaper, first look for any loose corners or seams. If you don't find one, make one. Give the loose tab a slow, controlled yank. With any luck, the installer used a quality wallpaper primer before applying the paper, which makes removal much easier. You may be able to peel away large sections of paper by hand with little effort. Move along the wall, pulling off all the paper you can, because the following methods require more time and work. Use a drop cloth to catch the debris.

From my experience, the paper never completely comes off the wall when pulling by hand. The adhesive on the back of the wallpaper can be stubbornly fused to the paper face of the drywall. To remove the paper without damaging the wall surface, you need to weaken the chemical bond of the glue. There are two ways to do this: Use a liquid wallpaper stripper, or use a steam-powered stripper.

Before employing either method, use a perforation tool to abrade the paper, cutting tiny holes in the surface that will drink up the liquid. The perforation tool is sold at most hardware or paint supply stores, and it's little more than a palm-sized handle that houses wheeled spurs, which rotate as you move the tool over the wall. Apply just enough pressure to perforate the

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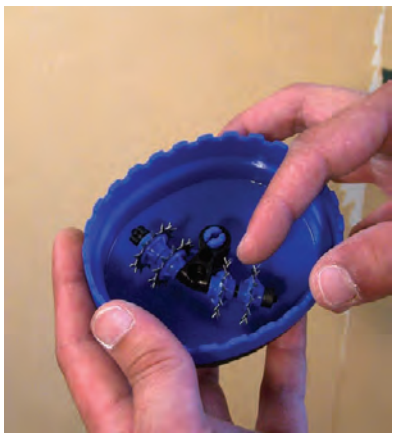
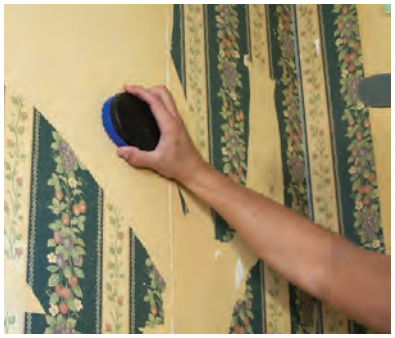


Score the wallpaper with a perforation tool.



paper without damaging the drywall. Alternatively, score the paper with the edge of a wall scraper in a crisscross pattern with 6-inch spacing. Score all areas where wallpaper is still adhered.

CHEMICAL STRIPPER

Using a chemical wallpaper stripper is one of the easiest and cheapest methods to do the job. Mix the liquid wallpaper remover with hot water, according to the manufacturer's instructions. Use a paint roller or spray bottle to apply the remover to the perforated paper. Wait about ten minutes for the remover to weaken the adhesive, and then peel off as much as you can with your hands. For stubborn swaths of paper, lightly use a 3-inch scraper at a shallow angle to scrape the paper without nicking the wall.

Mix the chemical stripper.

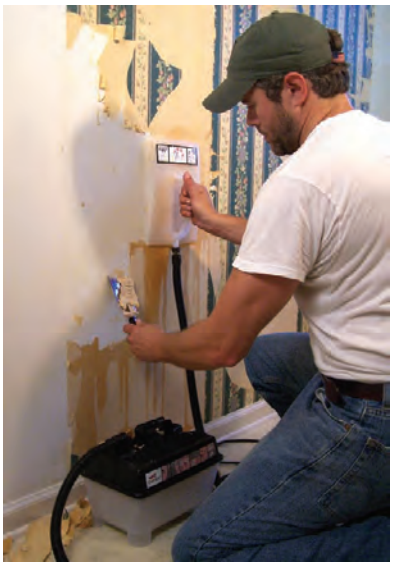
Apply the stripper with a sprayer or roller.

STEAM STRIPPING

If you frequently remodel or redecorate, consider investing in a steam-powered wallpaper stripper. These tools eliminate the need to use chemicals and can be reused over and over. The simplest steamers require only that the user fill the tank with water and plug the cord in an outlet to start the heating element. Once the water heats up, the steam that is generated escapes through a hose. At the end of the hose a steam plate to collect the steam over a targeted area.

Simply hold the steam plate flat against the wallpaper for approximately 10 seconds. The steam will heat and dampen the paper, which loosens the glue. Then move the plate to the spot immediately next to the one just steamed, from which the paper should easily come away with a little encouragement from a wall scraper. Working in this pattern should allow you to continuously remove paper.

Don't forget that steam is hot. The steamer I used for this article produces steam at 212 degrees, so be very careful when using.



FINAL PREP

After removing all the wallpaper, wash the wall several times to remove the glue residue. Use fresh water and a sponge. Otherwise, the residue will impair the bonding of the paint and cause it to peel. Once the wall is completely dry, finish the wall with primer and paint. EHT

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Stepping Up

Installing a Power Step on a Pickup Truck

By Larry Walton, Photos by Bruce W. Smith

I was testing some Dick Cepek mud tires on my F-250 last year so I took off the OEM chrome tube side steps for the photos. I really like the look of the truck without the steps, but other members of the family missed their functionality. I had to keep a short step ladder in the bed for when my mom needed a ride.

Enter AMP Research with a brilliant solution: the Power Step. Available through Bestop (www.bestop.com), the Power Step is a very well engineered system that uses heavy-duty motors to deploy the steps in less than a second when any door opens. The steps completely retract under the vehicle as soon as the door is closed.

"I kept hearing people complain about their running boards being awkward to use," says inventor/designer Horst Leitner, "so we did some ergonomic research and studied people of various heights, weights and ages to come up with the perfect height and extension for a running board." He adds, "The research said that most truck and SUV step boards are mounted too high and too close to the vehicle to provide a natural step."

The key is the fact that the steps retract. They couldn't be positioned as low or as far away from the vehicle if they didn't tuck away while the truck is in operation. Now, I have the look I want on my truck (clean and lean), and everyone has a comfortable step for climbing aboard.

The components fit very well to the stock mounting points, the wiring harness was the right size for the crew cab, and the kit included some nice details such as butt connectors, cable ties and connecting wires.

The operation of the steps is just cool. When you open any door, the step on that side deploys very quickly so you don't miss a step getting in. When the doors are closed and the steps are up you cannot see them, unless you happen to be two feet tall.

The Power Step costs about $1,200, and you can save yourself a couple of hundred dollars by installing it yourself. When ordering the kit, be sure to pursue any information available on AMP's website about your specific truck model. You can download the installation guide and scroll down until you get to the wiring guide. Find the page that is specific to your truck and look for any additional kits required. In our case we needed some single diodes.

CONTACTS:

AMP Research
www.amp-research.com

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STEP-BY-STEP

Here's how we got the install done on a 2001 Ford F-250 Super Duty Crew Cab using a basic tool kit in our home garage:

We started by attaching the motors to the rear linkage assemblies. A gear cover/gasket is sandwiched between the motor and linkage and held together with three hex-head bolts.

We located the second set of holes from the front in the inside wall of the body exterior on the passenger side of the truck. Get your head under the frame rail and look up and toward the outside of the vehicle.

We removed the U-nuts from the old side steps and used the supplied U-nuts to start the hex

bolts in the top holes. With the hex bolts in place, we positioned the slotted openings in the idler linkage and aligned the bottom holes with the holes in the truck body.

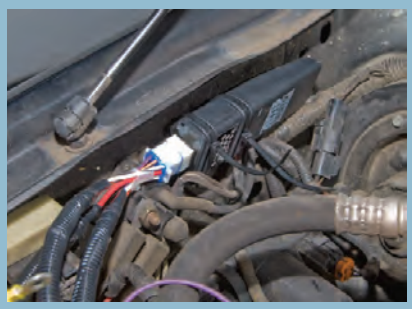
We used the button-head bolts and stainless steel washers through the outside of the pinch

weld and into the threaded holes of the assembly.

With the idler (motor-less front) assembly in place, we folded it back to make sure it cleared the Banks TransCommand, which is mounted near the outside of the frame rail.

We repeated the process for the rear assembly in the set of holes closest to the rear tire and moved across to the driver's side.

We used the supplied zip ties to attach the control box inside the engine bay, and then we connected the harness to the controller.



We opened the inline fuse holder and removed the fuse.

We found that the openings in the terminal ends weren't large enough so we drilled them out. A large pair of Channellocks work well to clamp the end to a block of wood for safe drilling.

STEP-BY-STEP

We connected the ends to the clamp bolts on the battery terminals.

We threaded the short leg of the harness out of the engine bay between the firewall and the fender well on the passenger side, and threaded the long leg

across the top of the firewall and then between the firewall and the fender well on the driver side.

We removed the step plate inside each door and rolled back the carpet.

We punctured the floor grommet and pulled the purple trigger wire from each side of the harness up through the floor on each side of the truck.

We popped out and unplugged the door lock controls.

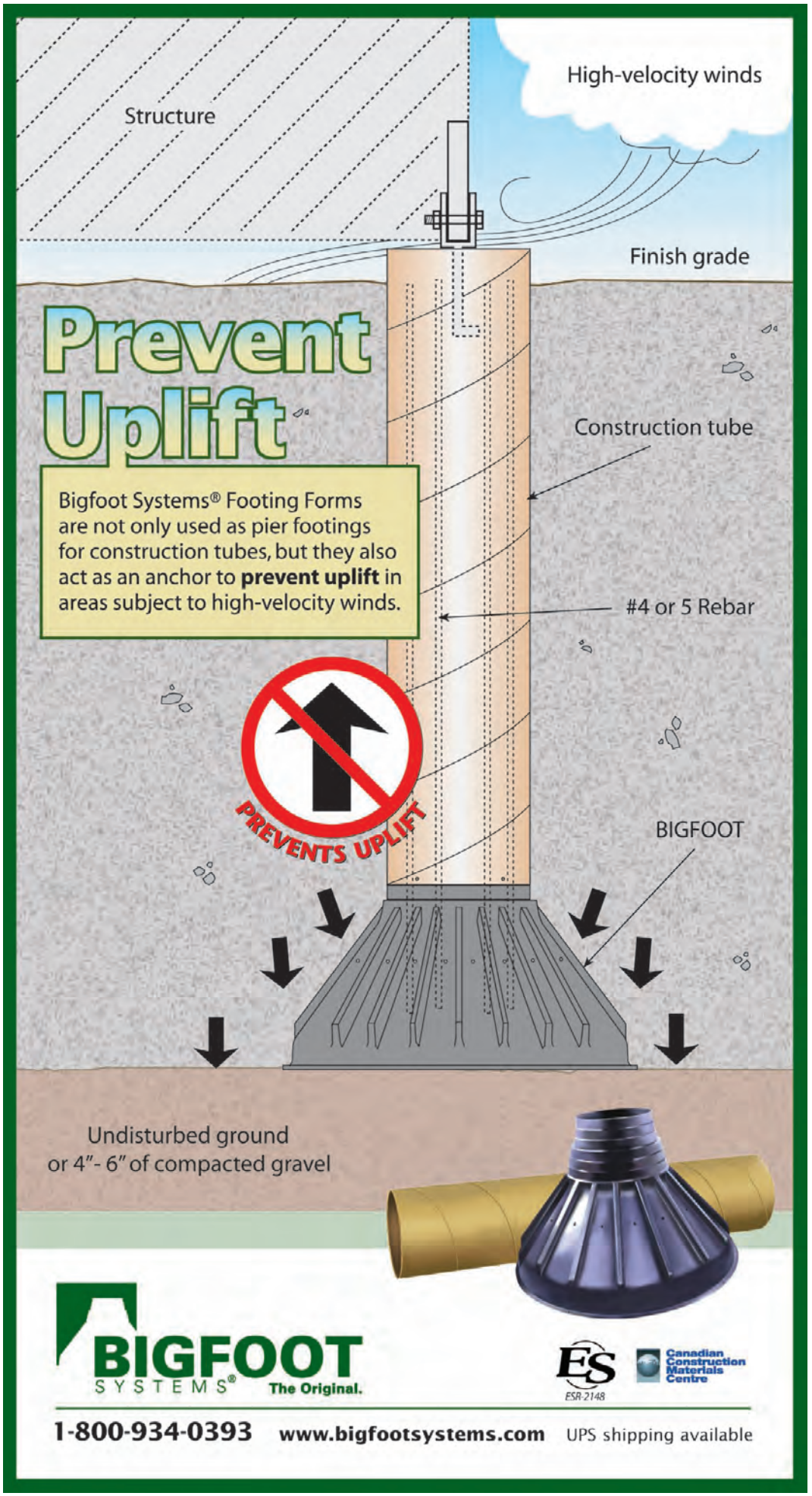
We popped out the door light lense and removed the door panel mounting bolts.

The door trim panel near the A-pillar comes off with a standard screwdriver.

We removed the door panel by lifting up and over the lock pin, which pulls out the tabs on the bottom.

Be careful to fish the light fixture out of the back before setting the door panel aside.

We detached the speaker and tipped it out of its door mounting hole.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Tips for Installing Footings

Here are some useful tips to ensure your footings are installed properly and the integrity of your project is maintained:

- You should always make sure that a qualified engineer has designed the footing you are using and that it has been tested by an accredited evaluation firm.
- Select a footing that can carry the weight of your new construction and has met all the proper building codes.
- Ensure you are placing the footing form on solid ground. The more solid the ground the less likely movement will occur.
- Install your footings 4-6 inches below the frost line to avoid potential movement. If you are in an area without frost, the footing form should be placed two feet in the ground and then backfilled to hold it in place when it is being filled with concrete.
- Rebar is an important part of installation. Pour concrete into the footing system first, insert three or four number 4 or 5 rebar rods into the tube. To determine the length of rebar, measure the distance from the top of the tube to the air holes located on the Bigfoot Systems® Footing Form before you place the system in the excavation and backfill.
- Don't risk having to redo the job, do it right the first time!

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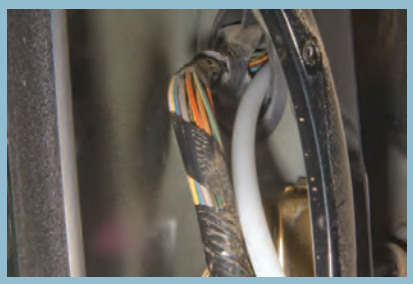
STEP-BY-STEP

Be sure to unplug the speaker before setting it aside.



AMP supplied a tube, which we fed through the speaker opening, past the grommet and through the wire chase into the cab.

With the tube in place, a wire can be threaded through it.

We located the rear door-ajar wire under the sill plate and cut it.

We attached butt connectors to each side of the now-cut door-ajar wire.

We installed a single diode harness in between the two halves of the door-ajar wire.

We attached the purple trigger wire, which goes through the floor and into to the main Power Step wiring harness, to the double diode harness. One leg of the

double diode gets connected to the red wire running into the door and the other leg goes to the single diode, which is now connected to the rear door-ajar wire.

We tapped into the front door-ajar wire inside the door panel.

We located the sliding T-nuts

and lined them up with the corresponding grooves in both arms.

We fastened the steps to the arms using the supplied hex head screws.

Lastly, we used a measuring tape to match the position of the steps on the arms for both sides of the truck. **EHT**

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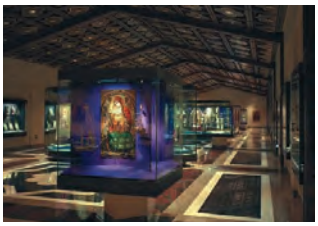
High-tech Tools Deliver Laser Precision

When hanging glass museum showcases, installers rely on laser-guided instruments for surefire accuracy.

By Lori Lovely

Museum visitors might not notice, but encasing artifacts requires stringent precision. Depending on the objects on display, showcases may feature active climate control and integrated passive humidity control. Some situations require an air-tight vacuum seal or a pressurization system; others have minimal requisites, such as a dust seal. At the very least, visibility of the artifacts is crucial, second only to safety and careful preservation of each item.



ALASKA UNDER GLASS

Whatever the parameters for the showcases, the job can be complicated by a display's unique design aspects or by a museum's location. The Anchorage Museum at Rasmuson Center, Alaska's largest museum featuring examples of the state's art, history, science and culture, poses both challenges in its new expansion.

The museum will add more than 600 Alaska Native artifacts from the Smithsonian Institute. Because the museum plans to create a study center for native cultures where community elders and professors are encouraged to come in to handle the artifacts, the glass walls of the showcases must be rigid unto themselves so the doors can open. An even bigger complication is the museum's location. As Ryan Skorch, projects and development director for Click Netherfield Ltd., explains, Alaska resides in the "ring of fire" circling the basin of the Pacific Ocean—an area recording the highest seismic and volcanic activity in the world.

Because of the potential for seismic activity, the all-glass showcases, measuring 18 feet wide, 6-feet deep and 12-1/2 feet tall, must be suspended from the ceiling. Each case is made up of eight panels of 3/4-inch glass weighing 850 pounds each. "The cases must be perfectly level, straight and plumb," Skorch explains, "and they must move." A pneumatic motorized system will allow the panels to slide out for full access to the case. Click Netherfield, the showcase

design firm, must also allow for the shifting movement of the slabs underneath. And, because treated air is pumped in to keep dust out, seals are particularly important—emphasizing the significance of being perfectly plumb.

Click Netherfield Ltd., international museum showcase designers and manufacturers headquartered in Livingston, Scotland, has built a reputation on quality, exceeding the exacting standard of meticulous structural construction necessary for any setting. Click and Netherfield, established separately in the late 1970s, merged in 2006, combining experience, expertise and resources in the design, manufacture and installation of museum showcases. Design and

development teams use state-of-the-art 3-D modeling and drafting programs, while manufacturing teams benefit from CNC milling machines, advanced technology glass processing, joinery and steel fabrication facilities and a powder coating plant.

The same attention to detail in design and manufacture is carried through to the company's measuring equipment for installation. Skorch recognizes the Alaskan museum as the firm's biggest challenge and he knows it takes the right tools to achieve results when the level of accuracy is critical. Before starting the job, Skorch began a search for the proper tools. Relying on an industry reference, he turned to Leica Geosystems Inc., selecting the Leica Rugby 55 laser level and Leica DISTO D3 laser distancemeter. "We fell in love with what we saw," Skorch reports, adding that they were headed to Alaska the next week.

Floor-to-ceiling measurements were taken with the DISTO, which can accurately measure past obstructions to precisely determine angles. "We did a lot of floor-to-ceiling measuring. That flip-out end piece let us set it on the ground and know it's plumb." The multifunctional end piece with automatic detection measures accurately out of corners or from edges.

To support the heavy glass cases, steel frames are being welded to the ceiling – but not before Skorch used the Rugby 55 to plumb it. "The Rugby has a robust nature," he says. "I like its circular motion. We can plumb a line up or down, from a tripod, the floor or even a column, allowing us to set a benchmark." The Rugby's scanning or stationary beam can be quickly positioned in 90-degree increments for easy right-left alignment, or, in "beam down mode," the rotating head automatically positions itself in a plumb down direction.

TORONTO TWIST

Unlike those at the Anchorage Museum, the showcases at the Art Gallery of Ontario in Toronto are supported from the ground, but pose a different kind of challenge for Click Netherfield. "We're working with Frank Gehry," Skorch explains. "That's a challenge in itself because of all the unique shapes and creations."

Gehry Partners of Los Angeles, renowned for its innovative—often deconstructivist—architectural designs, is the architect of record for the redevelopment of the Art Gallery, a major building renovation begun in 2005. Founded in 1900 by a group of private citizens, the AGO is one of the largest art museums in North America, housing one of the largest Inuit art collections, along with masterpieces of European art, eminent Canadian artists and photographers. Expected to re-open late in 2008, the 583,000 square-foot facility will feature an innovative architectural design.

That design translates into a new standard in showcase design from Click Netherfield, due to the geometrical complexity of the exhibits. "The majority of the cases are not typical," Skorch says of the "wavy and curvy" glass panels. "Each one is unique." The cases for the Thomson Ship Models Collection Gallery are constructed of curved glass with a 25- to 45-foot serpentine at the top to produce a wave profile.

Cases in the Thomson Collection of European Art Galleries incorporate minimal design with high-end materials, such as finishes in white marble, Douglas Fir, copper plate and cast bronze. "They're squared, simple and elegant," Skorch reports, "with a lot of crisp corners and a lot of straight lines." Skorch used the Rugby 55 to set up the case layout and to install them, praising its ease of use and level of accuracy. "It's good for setting benchmarks. We strapped it to a building column to establish a line where the case needs to hit." The wrist strap secures the instrument at any height.

Lightweight and small, the DISTO D3 features an integrated tilt sensor that assists with indirect measurements so horizontal distances can be measured despite obstructions. It's also capable of measuring angles up to ± 45 degrees at the touch of a button. "We put it on a tripod, hit a button and were off and running," Skorch recalls, adding a favorable impression that "even the carrying case is well thought-out."

In Toronto, Skorch was working in a 30-by-75-foot room that would hold 100 components within several showcases. The DISTO's Power Range Technology enables long distances to be measured without a target plate. Although Skorch didn't need it for the AGO, the multi-functional DISTO has a sensor that detects lighting conditions, automatically switching on the display and keypad illumination for dimly lit or dark conditions.

COORDINATING PRECISION

Another reason Skorch likes the Rugby is its measuring range up to 100 meters with an accuracy of 1.0 millimeter, ± 0.04 inch. "We work with 0.0 tolerances. Others work with tolerances of 3/4 inch over 8 feet. Our client in Toronto specified 1/4 inch. We allowed 3/8 inch. Others have variances up to 1-1/2 inch."

Those differences must be overcome when two or more groups are working together on an installation. Click Netherfield prides itself on its coordination efforts and is frequently hired as an early project consultant, but Skorch admits it was a challenge in Toronto. Although the museum renovation has been ongoing for a few years, Click

Netherfield wasn't contracted until May 2007. Facing a fast pace that includes a scheduled re-opening later this year, Skorch says they couldn't wait until the building was finished to take field measurements. "What suffers the most," he sighs, "is the end result. Our sight lines are dead-on, but the building isn't."

With more than 100 showcases designed to finish flush with the ceiling and a ceiling that isn't level, the only option to overcome the disparity is to hang them straight. Skorch has decided to conduct a test with two cases, purposely hanging them low to create a detail instead of trying to mask the variance.

Both the Rugby and DISTO are on extended loan from Leica Geosystems in a sort of case study arrangement to explore the equipment's applicability in a new industry. Click Netherfield's feedback on how the pair adapt consists of unfettered praise.

Skorch may be the only one providing feedback on the projects. He realizes that if Click Netherfield does its job well, museum visitors in Alaska and Toronto probably won't notice. They won't take into consideration the precision accuracy necessary to construct the showcases displaying the artifacts they come to see. In fact, they will literally look right through Skorch's work, as if it wasn't there. "They haven't yet built a museum about museum cases," he chuckles, "so for now, we want people to look right through us."

HOT PRODUCTS

HUSKY TOUGH TAPE

The *EHT* staff goes through a lot of measuring tapes, but we expect the new Husky Tough Tape to last longer than most. Features include a patented extra-wide blade with a new super-coat technology designed to last ten times longer than standard tape coatings. Measurement markings printed on both sides of the tape allow for easy readings up a wall or overhead, while the stiff 9-1/2-foot standout capability makes measuring longer distances easy. We've already subjected the tape to a couple of accidental ladder drops, but the Tough Tape's rubberized exterior absorbs shock while providing a comfortable grip. The sides feature chrome-plated, high-impact casing for extra durability. Plus, the tape includes two rare earth magnets at the end of the blade to adhere to steel studs and other metal surfaces, making it ideal for anyone working on solo projects. The Tough Tape is available in lengths of 16, 25 and 40 feet. Visit www.huskytools.com.

STRIKER MAGNETIC LED LIGHT

It may look like some sort of underwater mine, because the new Striker MagLED Light is surrounded on all sides by magnets to provide a powerful spotlight that can be used almost anywhere you need illumination. It has an intensely bright, wide angle LED and 12 powerful rare earth (neodymium) magnets that allow you to stick it to any steel surface, or rest it on any surface, and aim the light towards the workspace at almost any angle. The MagLED is small enough to fit into tight areas. Use it when working on an engine, changing a tire, wiring a home theater, switching on a breaker, crawling around beneath a counter or sink. The potential uses are endless. Because of its 12 magnets, it also works as a "pick up" tool for dropped screws, nails and hardware. Visit www.strikerhandtools.com.

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HOT PRODUCTS

NEW LINE OF LED FLASHLIGHTS

With its advanced technology LEDs, Klein's new line of flashlights provides bright and powerful light in a variety of work environments. The Klein flashlights are made of nearly indestructible polymers for years of service. Included in the line is the LED Penlight Flashlight (X3). Its Xenoy body is resistant to chemicals, water and corrosion, and fits neatly in a shirt pocket and comfortably in hand. A 50-hour battery life ensures maximum uptime. The Recoil LED Grip-It Flashlight (X19) focuses 100 percent of the light forward to produce a white collimated beam as bright as an incandescent light. It is submersible to 500 feet and includes a wrist lanyard for added security. Each made in the USA, the new Klein line of LED flashlights features eight more products, which you can read about at www.kleintools.com.

BRICK PANELS FOR HOME-IMPROVEMENT PROJECTS

Gaining the look of Old World brick on a home just got easier … and greener. Performance Brick, an environmentally-friendly panelized façade product made of recycled gypsum and reinforced with high-density polymer materials, can quickly be added to the interior and exterior of any home. For homeowners wanting to add the look of brick to the home without the costs and labor hassles of handling real brick, Performance Brick can be used for remodeling and new construction applications. The moisture-resistant panels are suitable for interior applications (such as to create a fireplace surround or a feature wall) and exterior applications (such as covering existing siding). Overlapping and interlocking panels of Performance Brick are connected with a patented Fast-Track system. This technology provides up to a 3/4-inch airspace behind each panel to allow for air flow and water drainage should any moisture infiltrate the decorative mortar on the panels. For installation instructions and 50-year Limited Lifetime Warranty information, visit www.performancebuildingproducts.net.

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HOT PRODUCTS

PET CLEANING GOES "GREEN"

SporiCLEAN, an environmentally-safe, "green" all-natural plant-based product is a preferred product for pest control associated with cats and dogs. Used as a flea shampoo, SporiCLEAN is a cost-effective solution that also doubles as an indoor cleaner to rid carpeting, furniture and drapes of flea infestations. A non-toxic cleaner, SporiCLEAN can also be used to control household ants, spiders, bed bugs and dust mites. One concentrated quart bottle of SporiCLEAN makes 16 gallons of household-strength flea shampoo/cleaner that lasts for months. Unlike harsh chemical pet cleaners, SporiCLEAN is an all-natural non-toxic, non-caustic and non-harmful enzyme cleaner that is safe to people, pets and plants. When cleaning with caustic chemical disinfectants (such as bleach), homeowners and pets are further exposed to unnecessary poisonous toxins. When using SporiCLEAN's multi-enzyme formulation, the entire microorganism (including fleas) is thoroughly broken down, dislodged and digested. Visit www.killmoldfast.com.

BUCKET-MATE KEEPS ADHESIVES CLEAN

Conveniently snapping onto the rim of an adhesive bucket, the Bucket-Mate by Kruskamp Tools is a unique category of tool, the only trowel cleaner and contamination control device. The notch cleaner and scraper built in to the patented Bucket-Mate keep the trowel blades clean, and the crescent-shaped catch tray keeps contaminants from reaching the adhesive while still providing easy access to the adhesive in the bucket. The Bucket-Mate provides many benefits to the end user, including meeting the adhesive manufacturer's recommended spread rate and keeping contaminated adhesive from being discarded with the bucket into the landfill. To learn more, visit www.kruskamptools.com.

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HOT PRODUCTS

LUBE IT UP WITH JIG-A-LOO

Jig-A-Loo is a new product that combines the power of a lubricant with the properties of a water-repellent. It's a dry silicone-based lubricant that, unlike any other lubricant, contains no oil, grease, wax, petroleum distillates or detergent, so it doesn't stain or stink. When Jig-A-Loo is sprayed, millions of molecules cover the surface with a non-greasy film, allowing everything to slide as though it was on ball bearings. This same action is what makes it a great water-repellent. It stops squeaks, un-sticks just about anything, and protects against rust. Ideal for wood, metal, glass, rubber, leather, fabrics, most plastics and a number of other surfaces, Jig-A-Loo helps just about anything operate and slide better. Visit www.jigaloo.com.

POWER TOOL DRAG RACING

Drag racing originated in the U.S., and to millions of motor-sports fans it's considered as American as apple pie, Elvis and Rock n' Roll. Drag Racing has become a sport that boasts an estimated 68 million race fans in the United States alone. American's simply can't get enough of the rubber peeling, fuel injected, high-octane adrenaline rushing speed of drag racing. If American ingenuity could transform a street car into a hot rod dragster—it's mind boggling what Americans can do with everyday power tools! In power tool drag racing you can take just about anything with an engine or a motor and send it screaming down a track.

In 2006, UK-based Silverline Tools, which sponsors a variety of top UK racing teams, hosted the UK's first Power Tool Drag Race at the Haynes International Motor Museum in Somerset, England, to the joy of over 6,000 British spectators. One of the popular races of the (now annual) day-long racing event is the power tool ride-on competition. The competition pits the likes of chainsaw powered go karts racing against entries constructed from leaf blowers, water pumps and more. In 2007, UK Team "Thunder Wonder" constructed a ride-on dragster from a Little Wonder 9-horsepower walk-behind blower, thanks to a donation from the U.S.-based Little Wonder.

"We needed to find a power tool strong enough to speed a dragster with a driver around a track without powering the dragster directly from the engine. The only brand of blower that we trusted to have the durability and power to successfully complete that task was a Little Wonder Blower," says Team Thunder Wonder captain and driver, Declan Hicks. "The Little Wonder blower was more than up to challenge of the track conditions. When you consider that the dragster is not actually powered by the engine of the blower unit, but solely by the wind force produced by the blower itself, it is certainly a tribute to the quality and power of Little Wonder blowers."

According to Howard Kaplan, Team Little Wonder driver and marketing services director for the U.S.-based Little Wonder, "The race was a good spirited rivalry fueled by drag racing intensity. I was easily doing 25-30 mph through the track on the traditional long body dragster. The bicycle style dragster was going even faster than that though, easily 35-40 mph or more. It's remarkable how fast both of the units were able to race through the serpentine style track strictly on the power of the air flow emitted from the blowers. It was pretty exhilarating."

Silverline's Power Tool Drag Race is held annually in August, at Haynes International Motor Museum in Somerset, England. To learn more about this years' race or to enter for the 2009 event, visit the Silverline website. Want to learn how to build a blower dragster? Visit You-Tube to see how Team Thunder Wonder crafted their traditional long body dragster by clicking here. And, you can learn more about Little Wonder products by visiting the company's website at www.littlewonder.com/racing.asp.

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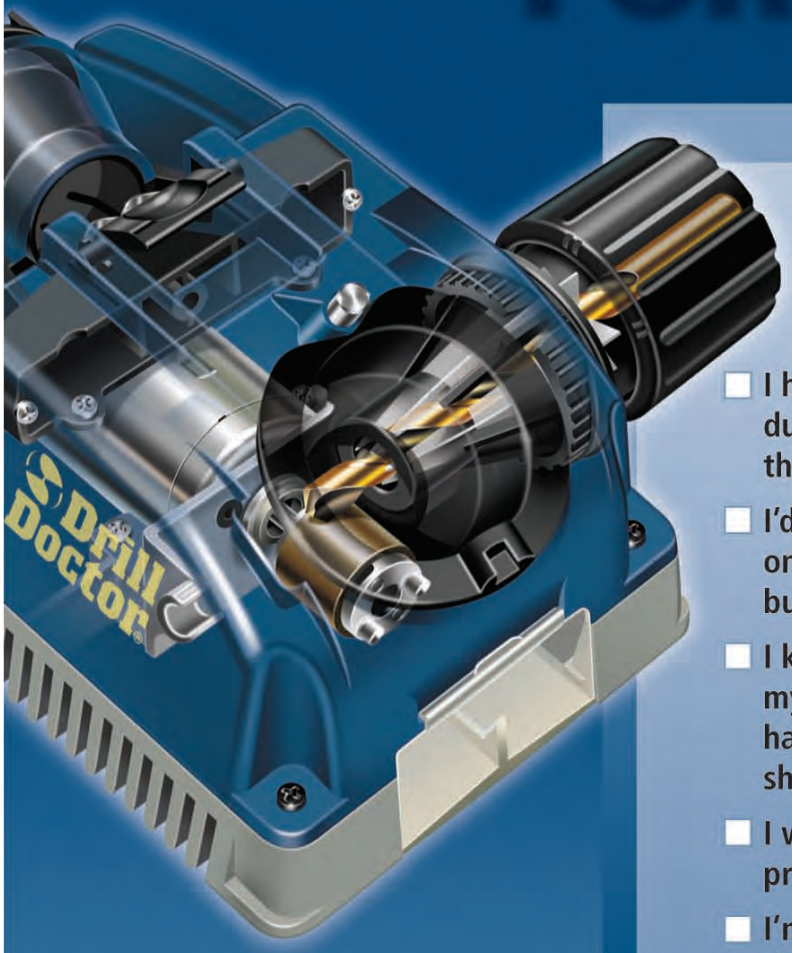

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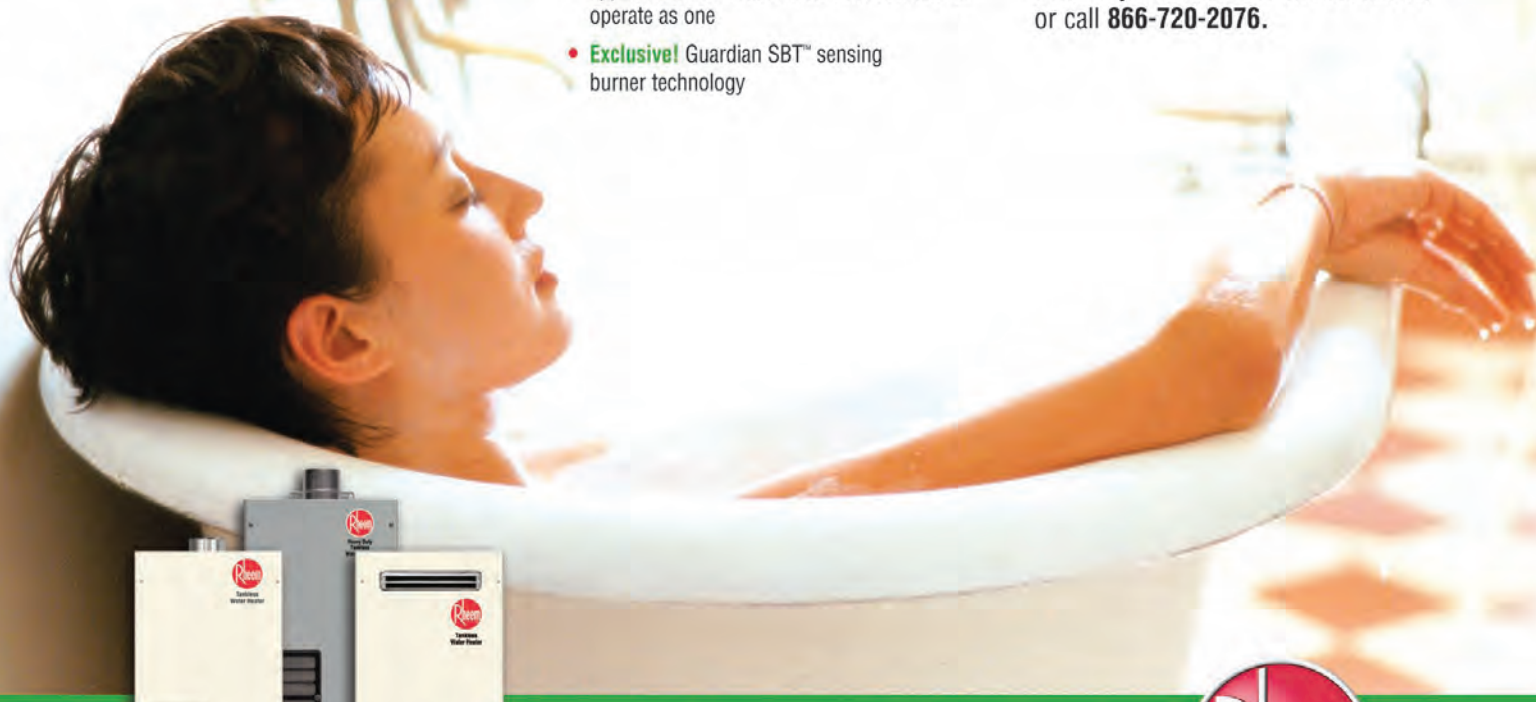

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